PATENT SPECIFICATION

DRAWINGS ATTACHED

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COMPLETE SPECIFICATION

An Improved Pack for Surgeons' Presterilized Rubber Gloves

We, RUBBER PRODUCTS DEVELOPMENT PROPRIETARY LIMITED, a Company incorporated under the laws of the State of Victoria, of River Street, Richmond, in the State of Victoria, Commonwealth of Australia, do hereby declare the invention for which we pray that a patent may be granted to us, and the method by which it is to be performed to be particularly described in and by the following statement:—

This invention relates to an improved pack for surgeons' presterilized rubber gloves.

Until recent years surgeons' gloves have been packed by the manufacturer in a simple pack, usually an unsealed envelope. It has been the practice for users to remove these from the envelope, which is then discarded. These gloves at this stage are not sterile. The gloves are then prepared for sterilizing by placing them in a pervious bag or envelope either of paper or cloth and subjecting them to heat (usually by steam under pressure in an autoclave). This treatment renders them sterile and ready for use.

Lately there has appeared on the market surgeons' gloves designated as disposable (single use) gloves. These are available in two forms. One form (commonly known as ready to sterilize) is packed in such a manner that the package with the gloves inside is ready to sterilize by merely placing in an autoclave and subjecting it to heat. The second form is one in which the package and the gloves inside are sterilized by the manufacturer before sale, for example by exposure to Gamma Radiation. Such package is sealed to prevent the contained gloves from becoming unsterile in storage or handling.

In this second form it is only necessary to open the pack as received and the gloves are then withdrawn ready for use.

It is of utmost importance that the package in which these sterile gloves are packed will allow the gloves to be withdrawn and presented for use with the least possible risk of contamination whilst so doing. This necessity applies also to the "ready to sterilize" pack after being sterilized by the user.

There are many and varied types of packs some of which employ a sheet of paper folded in such a way as to enclose the gloves without the need of an outer package but when opened out presents the gloves lying on the inner surface of the paper. Such inner surface if not handled or touched after autoclaving will be sterile. Some packs employ an outer peel back pack enclosing an inner pack. This inner pack is sometimes a paper folder or sometimes an open out cardboard folder.

The disadvantage of these packs is that they all present some risk of the accidental touching of the inner surface of the pack or the gloves themselves when being opened for use.

It is an object of this invention to provide an improved package for surgeons' gloves which are sold in a presterilized form.

It is a further object of the invention to provide an improved package for surgeons' gloves which will be readily accessible and which will enable the gloves to be withdrawn from the package with a minimum risk of contamination.

A still further object of the invention is to provide a package for surgeons' gloves which, while having the above advantages will be relatively low in cost. This is of particular importance in relation to disposable gloves since the whole of the cost of the package must be considered in connection with a single use.

With a view to achieving these objects the invention provides a pack consisting of an envelope having a body adapted to receive a pair of surgeons' gloves, a flap adapted to fold over said body, and an extension of the flap folded back over said flap away from said body, whereby the pack may be handled

[*Price 4s. 6d.*]

Price 33p

without risk of contaminating the gloves, and may be opened without touching any portion of the flap which is likely to be contacted by the gloves when being withdrawn from said body.

Preferably the body is provided with two individual pockets, one for each glove of said pair. The pack may be made from two separate pieces of paper or other suitable material, one of which forms the back of said body, the flap and the extension, while the other forms the front of the body. Alternatively the pack may be made from a single piece of paper, or other sheet material, appropriately folded.

The two pieces or single piece of paper or other sheet material may be coated over the whole of their adjacent surfaces or only over those parts which are to be joined together with a sealing material which will allow the joining together of the two pieces by the application of pressure with or without heat.

In a preferred form of the invention, the flap is folded over a body, the extension is folded over the flap, and the package as a whole is further folded in two along the common centre line of the body and the flap to permit ready insertion in an outer envelope. The pockets above referred to are located one on each side of the centre line to facilitate the additional folding.

In order that the invention may be more readily understood, it will now be described by way of example with reference to a particular embodiment illustrated in the accompanying drawings wherein:

Figure 1 is an exploded view showing the parts of the inner package before assembly;

Figure 2 is a perspective view showing the assembled inner package and indicating the first step in the making thereof;

Figure 3 is a perspective view illustrating the first step in the folding of the inner package;

Figure 4 is a perspective view illustrating the second step in the folding of the inner package;

Figure 5 is a perspective view illustrating the completely folded inner package;

Figure 6 is an exploded perspective view showing the parts of the outer package before assembly; and

Figure 7 is a perspective view of the completed pack.

The pack of this embodiment is a pack for surgeons' rubber gloves in which the gloves 10 and 12 are contained in an inner package 14 which in turn is contained in an outer sealed package 16. The inner package 14 comprises two sheets of paper 18 and 20, a suitable size for sheet 18 being 14 inches × 11 inches (35.56 cm × 27.94 cm), and a suitable size for sheet 20 being 6½ inches × 11 inches (16.51 cm × 27.94 cm). Sheet 20 is superposed upon sheet 18 with one of its 11 inch (27.94 cm) sides coinciding with one of the 11 inch (27.94 cm) sides of sheet 18 and its two 6½ inch (16.51 cm) sides in alignment with the 14 inch (35.56 cm) sides of sheet 18.

Sheet 20 is then sealed (joined) to sheet 18 with a seal having a width of approximately 1/4 inch (0.65 cm), along three of its edges, such edges being those superposed on the edges of sheet 18. In addition a centre seal 24 is formed to join sheet 20, at its centre and at right angles to the 11 inch (27.94 cm) sides, to sheet 18. When the two sheets of paper have been connected in the manner described the result is a field of paper measuring 14 inches × 11 inches (35.56 cm × 27.94 cm) with an envelope comprising two separate pockets 26 and 28 measuring 5½ inches (13.97 cm) wide at the mouth by 6½ inches (16.51 cm) less than the space taken up by the width of the seals used to join the two sheets. Sheet 18 provides the back 30 of the envelope measuring 6½ inches × 11 inches (16.51 cm × 27.94 cm); a flap 32 measuring 6½ inches × 11 inches (16.51 cm × 27.94 cm) and an extension 34 measuring 1 inch × 11 inches (2.54 cm × 27.94 cm).

To facilitate the joining of sheets 18 and 20, they may be coated with a sealing material which will permit them to adhere to each other by the application of pressure with or without heat. The coating may extend over the whole of the adjacent surfaces or may be restricted to those areas in which seals are to be formed.

If so desired the inner package may be made from a single sheet of paper, folded so that it is of double thickness over the area occupied by the pockets 26 and 28.

Disposable surgeons' rubber gloves are always packed having their cuff parts turned back upon themselves for a length of approximately 3 inches (7.62 cm). This turned back part becomes the inner surface when placed on the hands, and is pulled over the cuffs of the gown. Whilst care is exercised at all times with sterile gloves, this turned back cuff, being the inside of the glove, can be touched with little or no risk to the sterility of the outer surface.

The packaging procedure is as follows:—

A right and a left hand glove 10 and 12 having the cuffs 36 turned back are placed on sheet 18 and sheet 20 is placed over them. The two sheets are sealed together as hereinbefore described and the gloves are so positioned that the seals may be formed without interference from the gloves lying between the two sheets. They are also positioned so that the edge of the turned back cuffs coincides with the open edge of each pocket. The pack at this stage is a field of paper measuring 14 inches × 11 inches (35.56 cm

× 27.94 cm) with the gloves having their surfaces except the turned back cuffs enclosed in the pockets 26 and 28.

Sheet 18 is folded back upon itself as indicated in Figure 2 at the junction 38 of the flap 32 and the extension 34, the fold being outwards from the surface containing the pockets. Sheet 18 is then folded again across its 11 inch (27.94 cm) dimension at the junction 40 of the back 30 of the envelope and the flap 32 but towards the surface containing the pockets 26, 28. This fold, which is illustrated in Figure 3, causes the gloves to fold at the line of the cuff edges and the cuff edges and the cuffs now lie parallel to the rest of the gloves. The cuffs lie on top of the pockets with the remainder of the gloves within the pockets. The pack now is folded as indicated in Figure 4 at right angles to the previously mentioned two folds about line 42 with the extension 34 innermost. This brings the inner package to the completed form illustrated in Figure 5 and it is now ready to be placed in the outer package 16.

The outer package is composed of two sheets of paper 50 and 52 which after being placed one on top of the other with the inner package therebetween have their four edges sealed together with a sealing material which is of a type which will allow the two sheets to peel apart from each other when an outward pull is applied. Straight seals 54 are used on three of the sides of the outer package while the seal 56 on the fourth side is in the shape of a boomerang, the central point of which is towards the end of the package but about 1 inch (2.54 cm) distant from that edge. The purpose of the boomerang shaped seal is to provide a convenient starting point to pull the sheets of the outer package apart.

The whole pack including the rubber gloves is then sterilized by any suitable means such as by Gamma Radiation and this sterile condition will be maintained until the pack is opened.

In order to open the pack for use the two sheets of the outer package are peeled apart and the inner package withdrawn. Only ordinary care in handling is necessary as the gloves and the inner surface of the pack are not accessible to contamination from the hands. The inner package is now placed upon a surface and is first opened out to the condition shown in Figure 4. The extension 34 is then grasped to open out the inner package by unfolding the flap 32 at its junction 40 with the envelope portion of the inner package. The gloves are thus presented on a sterile field which has not been touched in opening. The only portion of the gloves exposed outside the pockets is the cuff portion which can be conveniently grasped to remove the gloves from the pockets ready for placing on the hands. There is no risk of contamination during this operation since the outer surfaces of the gloves are not touched by the hands nor can they come into contact with any portion of the pack which has been touched by the hands.

WHAT WE CLAIM IS:—

1. A pack consisting of an envelope having a body adapted to receive a pair of surgeons' gloves, a flap adapted to fold over said body, and an extension of the flap folded back over said flap away from said body, whereby the pack may be handled without risk of contaminating the gloves and may be opened without touching any portion of the flap which is likely to be contacted by the gloves when being withdrawn from said body.

2. A pack as claimed in claim 1 wherein the body is provided with two individual pockets one for each glove of said pair.

3. A pack as claimed in claim 1 or claim 2 wherein the pack is made from two separate pieces of paper or other suitable material one of which forms the back of said body, the flap and extension, while the other forms the front of the body.

4. A pack as claimed in claim 1 or claim 2 made from a single sheet of paper or other suitable material folded about a line such that the part on one side of said line forms the pack of said body, the flap and the extension, while the part on the other part of the said line forms the front of the body.

5. A pack as claimed in claim 3 or claim 4 wherein the paper or other sheet material is coated over at least that part of its surface which requires to be joined to a contiguous surface to form said pockets with a sealing material which will allow the joining together of the two surfaces by the application of pressure with or without heat.

6. A pack as claimed in any one of claims 3 to 5 wherein the flap is folded over the body, the extension is folded back over the flap and the package as a whole is further folded in two along the common centre line of the body of the flap to permit enclosure in an outer envelope.

7. A pack as claimed in claim 6 wherein two pockets for the gloves are located one on each side of the centre line to facilitate the folding.

8. A pack for surgeons' gloves substantially as hereinbefore described with reference to Figures 1 to 5 of the accompanying drawings.

9. A pack for surgeons' gloves substantially

× 27.94 cm) with the gloves having their surfaces except the turned back cuffs enclosed in the pockets 26 and 28.

Sheet 18 is folded back upon itself as indicated in Figure 2 at the junction 38 of the flap 32 and the extension 34, the fold being outwards from the surface containing the pockets. Sheet 18 is then folded again across its 11 inch (27.94 cm) dimension at the junction 40 of the back 30 of the envelope and the flap 32 but towards the surface containing the pockets 26, 28. This fold, which is illustrated in Figure 3, causes the gloves to fold at the line of the cuff edges and the cuff edges and the cuffs now lie parallel to the rest of the gloves. The cuffs lie on top of the pockets with the remainder of the gloves within the pockets. The pack now is folded as indicated in Figure 4 at right angles to the previously mentioned two folds about line 42 with the extension 34 innermost. This brings the inner package to the completed form illustrated in Figure 5 and it is now ready to be placed in the outer package 16.

The outer package is composed of two sheets of paper 50 and 52 which after being placed one on top of the other with the inner package therebetween have their four edges sealed together with a sealing material which is of a type which will allow the two sheets to peel apart from each other when an outward pull is applied. Straight seals 54 are used on three of the sides of the outer package while the seal 56 on the fourth side is in the shape of a boomerang, the central point of which is towards the end of the package but about 1 inch (2.54 cm) distant from that edge. The purpose of the boomerang shaped seal is to provide a convenient starting point to pull the sheets of the outer package apart.

The whole pack including the rubber gloves is then sterilized by any suitable means such as by Gamma Radiation and this sterile condition will be maintained until the pack is opened.

In order to open the pack for use the two sheets of the outer package are peeled apart and the inner package withdrawn. Only ordinary care in handling is necessary as the gloves and the inner surface of the pack are not accessible to contamination from the hands. The inner package is now placed upon a surface and is first opened out to the condition shown in Figure 4. The extension 34 is then grasped to open out the inner package by unfolding the flap 32 at its junction 40 with the envelope portion of the inner package. The gloves are thus presented on a sterile field which has not been touched in opening. The only portion of the gloves exposed outside the pockets is the cuff portion which can be conveniently grasped to remove the gloves from the pockets ready for placing on the hands. There is no risk of contamination during this operation since the outer surfaces of the gloves are not touched by the hands nor can they come into contact with any portion of the pack which has been touched by the hands.

WHAT WE CLAIM IS:—

1. A pack consisting of an envelope having a body adapted to receive a pair of surgeons' gloves, a flap adapted to fold over said body, and an extension of the flap folded back over said flap away from said body, whereby the pack may be handled without risk of contaminating the gloves and may be opened without touching any portion of the flap which is likely to be contacted by the gloves when being withdrawn from said body.

2. A pack as claimed in claim 1 wherein the body is provided with two individual pockets one for each glove of said pair.

3. A pack as claimed in claim 1 or claim 2 wherein the pack is made from two separate pieces of paper or other suitable material one of which forms the back of said body, the flap and extension, while the other forms the front of the body.

4. A pack as claimed in claim 1 or claim 2 made from a single sheet of paper or other suitable material folded about a line such that the part on one side of said line forms the pack of said body, the flap and the extension, while the part on the other part of the said line forms the front of the body.

5. A pack as claimed in claim 3 or claim 4 wherein the paper or other sheet material is coated over at least that part of its surface which requires to be joined to a contiguous surface to form said pockets with a sealing material which will allow the joining together of the two surfaces by the application of pressure with or without heat.

6. A pack as claimed in any one of claims 3 to 5 wherein the flap is folded over the body, the extension is folded back over the flap and the package as a whole is further folded in two along the common centre line of the body of the flap to permit enclosure in an outer envelope.

7. A pack as claimed in claim 6 wherein two pockets for the gloves are located one on each side of the centre line to facilitate the folding.

8. A pack for surgeons' gloves substantially as hereinbefore described with reference to Figures 1 to 5 of the accompanying drawings.

9. A pack for surgeons' gloves substantially

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as hereinbefore described with reference to Figures 1 to 7 of the accompanying drawings.

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